



**CLEAN WATER AND DRINKING WATER STATE REVOLVING FUND LOAN PROGRAMS**

# 2013 Annual Report

Massachusetts Water Pollution Abatement Trust  
Massachusetts Department of Environmental Protection

**September 2013**





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## MESSAGE FROM THE CHAIRMAN

September 30, 2013

The Massachusetts Water Pollution Abatement Trust (the Trust) is pleased to submit its Clean Water and Drinking Water State Revolving Fund (SRF) Annual Report for State Fiscal Year 2013.

The Trust is a collaborative effort between the Office of the State Treasurer, the Executive Office for Administration and Finance, and the Massachusetts Department of Environmental Protection (MassDEP). Through our leveraged financing program we are able to maximize the impact of our efforts throughout the Commonwealth. To date, the Trust has used just over \$2.0 billion in federal grants and state matching funds to finance nearly \$6.0 billion in clean water and drinking water construction projects throughout the Commonwealth.

Even in these difficult economic times, communities continue to recognize the value of investing in the water and wastewater infrastructure that protects our public health and our environment and supports our economy. The need for cost savings at the local and statewide level is as important as ever, and the Trust continues to do its part. In 2013 the Trust provided approximately \$226 million in commitments for low interest rate loans to cities and towns all over the Commonwealth. This commitment amount will provide an estimated 4,500 construction and engineering jobs. This financing provides vast benefit to the quality of the state's waterways and the protection of public health through such projects as combined sewer overflow removal, wastewater treatment plant upgrades, sewer system construction and rehabilitation, septic system repairs, drinking water treatment facilities, treated water storage and water main replacement and rehabilitation.

The Trust is honored to serve as a national model and to stand out as the Commonwealth's only statewide municipal issuer to maintain a coveted AAA rating from all three major ratings agencies. By receiving ratings higher than the average underlying ratings of the participating local communities, the Trust consistently delivers lower borrowing costs to the Commonwealth and its communities. In FY 2013 the Trust sold over \$202 million of revenue bonds that will mature annually over 30 years and provide subsidized funding for \$340 million in water infrastructure projects to 79 communities throughout the Commonwealth. The subsidized interest rate of 2 percent to the communities saved the average borrower an estimated \$355,000 in debt service over the life of the loan based on the average loan of just over \$3 million financed through this bond sale.

On behalf of our partners at MassDEP and the staff at the Trust, I would like to take this opportunity to thank the staff of Environmental Protection Agency Region 1 for all of their efforts during 2013. I would also like to thank the staff of the Trust and at MassDEP for a job well done. Without the combined efforts of these organizations, the great things we are doing in the Commonwealth would not be possible. Finally, I would like to thank the Governor and Legislature for their continued support of the State Revolving Fund program in fiscal year 2013, providing \$53 million to subsidize Clean Water borrowers and \$9.8 million to subsidize Drinking Water borrowers through the Commonwealth's contract assistance payments.

Sincerely,

Steven Grossman  
Chairman  
Massachusetts Water Pollution Abatement Trust  
[www.mass.gov/treasury](http://www.mass.gov/treasury)

# Introduction

The Massachusetts Water Pollution Abatement Trust (the Trust) in partnership with the Massachusetts Department of Environmental Protection (MassDEP) provides cities and towns of the Commonwealth with low interest loans for water infrastructure projects. MassDEP manages project development and approval while the Trust manages the flow of money to the communities. Each year, MassDEP prepares the Intended Use Plan (IUP) of projects as required by the Environmental Protection Agency (EPA).

This IUP establishes the Commonwealth's project priorities for the upcoming year. This is accomplished through two programs – the Clean Water State Revolving Fund (SRF) and the Drinking Water State Revolving Fund. The EPA requires reporting on both of the programs through the Clean Water SRF Annual Report and the Drinking Water SRF Biennial Report. These reports have been combined into this report, which covers FY 2013.

Clean Water SRF's 2012 IUP provided for \$302 million of project financing to create 1,800 construction and engineering jobs.



Drinking Water SRF's 2012 IUP provided for \$115 million of project financing estimated to create 690 construction and engineering jobs.

Since its inception in 1989, the SRF loan program has provided approximately \$6 billion in loans to nearly 300 borrowers to improve and maintain the quality of water in the Commonwealth. An estimated 97% of Massachusetts citizens have benefited from these essential projects. In FY 2013, the Trust provided binding commitments for 46 clean water projects, including the Community Septic Management Program (CSMP), totaling over \$186 million and 15 drinking water projects totaling just under \$40 million.

The SRF loan program receives funding from the EPA in the form of an annual grant, supplemented by state matching funds and the repayment of funds from previous borrowers. In addition, the Trust issues bonds, guaranteed by debt service reserve funds that are funded by federal and state grants. The Trust's lending and bond issuance programs are structured in such a way as to ensure adequate cash flows to fund its loans and to repay its bonds maturity. The Trust's bonds are secured by a combination of pledged sources which include loan repayments, contract assistance from the Commonwealth and interest earnings on debt service reserve funds. The "Financial Summary" section provides additional details on the financial management activities and most recent bond issue of the SRF program.



# Clean Water SRF Annual Summary

This report covers the Fiscal Year ending June 30, 2013.

*Massachusetts continues to finance projects that focus on rehabilitation of wastewater infrastructure that promotes sustainability and smart growth principles. The SRF program provides additional subsidy to designated low income Environmental Justice Communities and continues to perform outreach activities to help borrowers identify the focus on and eligibility of energy efficiency/alternative energy projects.*

## 2013 Clean Water Program Results

In 2013, the Trust continued to expand its program by providing new commitments of over \$186 million in financing for 46 loans, to communities across the Commonwealth. Of the 46 commitments, 15 were awarded to the Community Septic Management Program (CSMP). The CSMP provides low interest financing to Massachusetts' cities and towns to assist homeowners in the repair of failed septic systems.

Grant Awards		
	FY 2013 Grant Awards	Program to date Grant Awards
Federal	\$47,985,000	\$1,280,319,761
State	9,597,000	229,453,092
Total	\$57,582,000	\$1,509,772,583

## Interim Loans

The Trust makes funds available to eligible projects on the IUP through its Interim Loan Program year round. Borrowers can enter into a short term loan to enable projects to proceed prior to a Trust bond sale. The Trust is capable of funding a project from 60 days to 1 year prior to a bond sale by extending the use of program equity funds as a source of capital. The interest is accrued monthly on the basis of the balance drawn on the construction account. The interest rate is set at one-half of the one year Massachusetts Municipal Depository Trust (MMDT) rate. The average interest rate charged in FY

2013, accruing only on drawn funds, was 0.13%. During FY 2013, 79 projects had drawn \$118 million of interim loan funds.

## Extended Financing

As in previous years, the Trust continues to offer extended financing to its participants. Extended financing is offered for projects whose life expectancy is demonstrated to be at least 30 years.

## Disbursements

During 2013, the Trust disbursed \$202 million for clean water projects to various local governmental entities through the pool program, direct loans, and interim loans. Of this amount, \$7.6 million was disbursed in the form of additional subsidy with repayment not required, to either "Renewable Energy" projects or "Environmental Justice" communities.

FY 2013 Clean Water Disbursements		
	Amount	# of Loans
Interim Loans	\$118,028,541	79
Pool Program Project Funds	83,852,319	60
Direct Loans	112,926	1
Total	\$201,993,787	140

## Administrative Expenses

For FY 2013, \$2.7 million of annual Clean Water SRF grant administration funds were spent by MassDEP. This consisted of \$2.2 million in federal funds and \$0.4 million in state matching funds. These costs were associated with construction management of the Clean Water SRF program. An additional amount of \$4.2 million was spent from the Trust's Administrative Fund to supplement MassDEP administrative costs for both the clean and drinking water programs as well as fund the administrative costs of the Trust.

# Clean Water SRF Annual Summary cont.

## Green Project Reserve

For the 2012 CWSRF Federal Grant, the Trust is required to provide just under \$4.8 million in financing to projects that are identified as Green Projects. In its 2012 IUP, MassDEP identified \$148.9 million in projects that are either considered to be entirely or partially Green. A number of projects on the IUP typically do not advance to construction, therefore, Green project participation needs to be calculated after projects are bid and the portions of the projects that are considered to be Green can be segregated out.

During the reporting period, MassDEP identified nearly \$5.7 million in Green projects, which more than complies with the Green Project Reserve requirements. There are several other projects that have been recently bid that are being evaluated for their Green components. These will count toward the 2012 Grant requirements as well.

## Additional Subsidy

Massachusetts was required to provide a minimum of \$2,666,682 in additional subsidy from the 2012 grant. This additional subsidy is dedicated to communities that would not otherwise be able to afford the project. Massachusetts chose to apply these funds to communities that meet the Environmental Justice (EJ) income threshold of below 65% of the state's median household income and for renewable energy projects. This targets the subsidy to lower income communities across the Commonwealth as well as providing subsidy for renewable energy projects that would typically have lengthy payback periods without the subsidy. Massachusetts provides the subsidy to the communities in the form of principal forgiveness. For FY 2013, Massachusetts provided slightly above the minimum amount of subsidy to eight clean water projects. Each project received an equivalent of 4.1% of the project cost as additional subsidy.

### 2012 Environmental Justice Projects

Borrower	Project	Loan Number	Project Cost	Principal Forgiveness
Chicopee	CSO Separation	CWP-12-22	\$15,478,242	\$632,251
Fitchburg	CSO Separation	CWP-12-01	5,813,257	237,458
Fitchburg	Chemically Enhanced Primary Treatment Upgrade	CWP-12-02	7,447,624	304,218
Haverhill	CSO/Flood Control Improvements	CWP-12-14	5,397,132	220,461
Revere	Sewer Pipe Improvement, CSO reduction	CWP-12-12	6,105,711	249,404
Revere	Planning and Completion of Sewer and Storm Drain Systems	CWP-12-13	800,000	32,678
Springfield WSC	Sewer Separation	CWP-12-03	20,497,831	837,289
Taunton	Repair and Replacement of Sewer Mains and Pump Station Upgrades	CWP-12-27	3,747,407	153,073
<b>Total</b>			<b>\$65,287,204</b>	<b>\$2,666,831</b>

# Clean Water SRF Annual Summary cont.

## 2013 Clean Water Leveraged Program

The Trust program is leveraged by issuing bonds to provide construction proceeds for loans. Federal and state grants are pledged to secure the bonds by either funding reserve funds or pledged loans or a combination of both. Since 2002, the Trust has provided loans to communities at a 2% interest rate. As the effective market interest rate on the bonds is higher than the 2% loan rate, borrowers receive a subsidy equal to the difference between the rates. Debt service on the Trust's SRF bonds is paid from a combination of three sources: borrower loan principal and interest repayments, interest earnings on the debt service reserve funds, and subsidy payments provided by the Commonwealth, known as contract assistance. Further discussion of the Trust's leveraged financing program can be found in the "The Financial Summary" sections.

## Borrower Repayments

Each borrower is obligated to repay the principal amount of its loan at a subsidized interest rate of 2% or less. Although those with extended term financing, greater than 20 years, may have a subsidized interest rate somewhat higher than 2%. In FY 2013, borrower principal and interest loan repayments accounted for approximately 64.7% of debt service, totaling \$183.6 million. Beginning in FY 2012, the Trust pledged certain direct loans that it made from its SRF program funds as additional security for its series of revenue bonds rather than utilizing the traditional reserve fund. The interest the Trust receives from the pledged direct loans is used to pay a portion of debt service, while the principal payments received are available as additional security and recycled back to SRF program funds after debt service obligations have been met. As of June 30, 2013, the Trust has \$158.4 million of pledged direct loans outstanding.

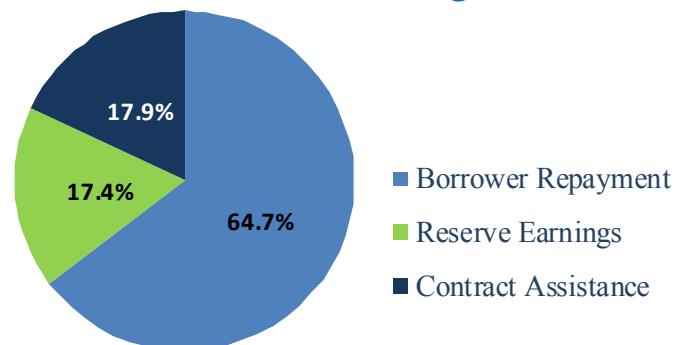
## Reserve Fund Interest Earnings

Reserve funds are held as security for all Trust bonds at an amount between 33% and 50% of the outstanding principal. As of June 2013, the Trust held \$1.1 billion in clean water reserve funds invested in guaranteed investment contracts (GIC), and US Treasury and Agency obligations. Earnings on these investments are applied to pay a portion of the debt service on the related series of SRF bonds. In FY 2013, reserve fund earnings applied to current debt service payments accounted for approximately 17.4% of debt service. As bonds are repaid, reserve funds are released. In FY 2013, \$63.2 million was released to the Clean Water SRF, and made available for new loans.

## Commonwealth Contract Assistance

The Commonwealth has entered into an Agreement for Contract Assistance to make payments to the Trust to directly subsidize debt service on the SRF bonds. Contract assistance is appropriated annually in the Commonwealth's budget. To date the Trust has received \$805.7 million in Clean Water Contract Assistance with a future commitment of \$347.7 million, for a total commitment by the Commonwealth of \$1.2 billion. In FY 2013, Commonwealth contract assistance accounted for approximately 17.9% of debt service, totaling \$50.7 million in assistance applied.

## Total Sources of Revenue for CWSRF FY2013



# Clean Water Projects

The following are featured projects that embody the goals of the SRF program.

The Massachusetts SRF program continues to meet the goals established in the annual Intended Use Plan (IUP). As outlined in the IUP, all SRF projects are subject to the rigorous environmental review procedures of the Massachusetts Environmental Policy Act.

The Clean Water SRF provides loans for a wide variety of projects. The primary recipients of Clean Water loans have been combined sewer overflow, wastewater treatment and wastewater collection projects. Although other projects such as drainage improvements, landfill closures, brownfields remediation, renewable energy projects, and other non-point source projects are eligible for funding.



Stormwater Treatment System

## Cambridge – Park Drive Area Drainage Project

The project work consists of the construction of approximately 3000 linear feet of 8-ft x 4-ft box culverts with associated catch basins, manholes, laterals, and special drainage structures. The work also includes the construction of a stormwater wetland treatment area in the Alewife Reservation with new boardwalk, bicycle/pedestrian path, signage, and planting. This project will remove combined sewers and improve the water quality of Alewife Brook. The SRF Program provided nearly \$13 million towards the \$20 million project cost. The Massachusetts Water Resource Authority (MWRA) and the City of Cambridge funded the remaining costs of the projects.

## North Attleborough - Wastewater Treatment Facility Upgrade

The Wastewater Treatment Facility (WWTF) will be upgraded to remove nitrogen and phosphorus in response to a new NPDES permit and EPA Administrative Order. The work will improve the discharge to the Ten Mile River to improve water quality.

The work consists of upgrades to the existing Wastewater Treatment Facility, including construction of new aeration tanks, a blower building, and a tertiary treatment building, replacement of tertiary filtration equipment, pumping system upgrades, miscellaneous equipment improvements, and other related work.

Legislation was passed several years ago to provide additional subsidy to projects that remove nutrients from wastewater discharges. This \$38 million project is being financed at a 0% rate of interest because this project is being constructed primarily for nutrient removal.



Constructed Wetland and Boardwalk



Tertiary Treatment Building N. Attleborough  
09.12.2012

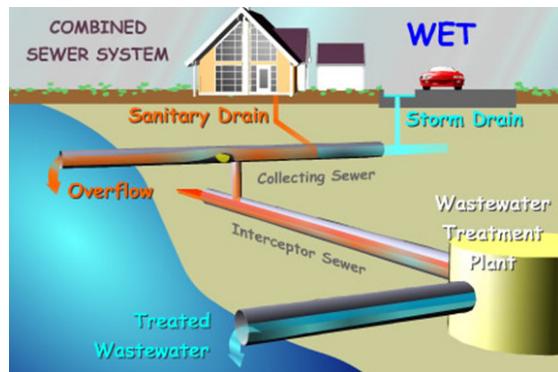
## Clean Water Projects cont.

### Charles River Pollution Control District - Wastewater Treatment Facility Upgrade

This \$3.5 million project consists of upgrades to the existing wastewater treatment plant including: installation of additional phosphorus removal, modification of disinfection equipment, improvements to septage receiving facilities and energy efficiency upgrades.

Energy efficiency upgrades include installing premium motors and variable frequency drives, all new lighting fixtures, and high efficiency Heating-Ventilation-Air-Conditioning systems.

The wastewater treatment plant discharges into the Charles River. The Charles River Watershed has a documented eutrophication problem. The project will realize environmental and health benefits from reduced contaminant discharges to the Charles River, and reduced power plant emissions pollution from reduced electricity usage.



### Chicopee - Combined Sewer Overflow Separation

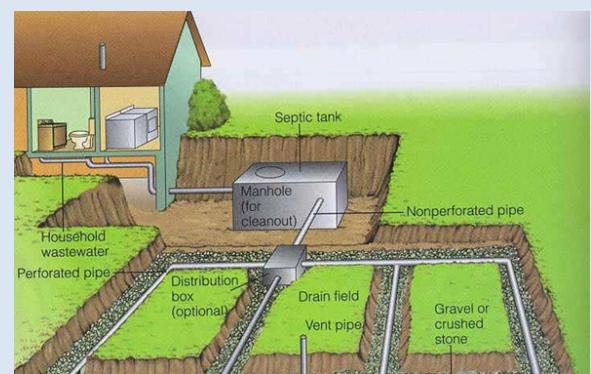
This project includes Combined Sewer Overflow (CSO) separation of the Call Street area and Montgomery Street/Sheridan Street. These areas represent Phase 2 of the eight phase plan presented in Chicopee's Final Long Term Control Plan and Final Environmental Impact Report. The project will separate over 400 acres and eliminate the CSOs in these areas. In most cases sewer separation will be achieved by providing a new sanitary sewer pipe and utilizing the existing combined sewer pipe for the conveyance of stormwater. The elimination of CSO discharges to the Chicopee River and the creation of additional interceptor capacity downstream to accommodate combined sewer flows from other areas within the city will contribute to improved water quality. The Clean Water SRF is providing \$16 million of financing towards this project.

### Community Septic Management Program

The Community Septic Management Program (CSMP) provides loans to Massachusetts' communities to assist homeowners in repairing failed septic systems. The Trust makes low interest rate loans to communities and the communities, in turn, loan the funds directly to homeowners for up to 20 years. Loans to homeowners are secured through a betterment on the property. This program allows municipalities to provide access to capital for home repair at a subsidized interest rate.

The Trust has been able to finance over \$93 million in loans since the program's inception, resulting in more than 7,000 septic systems repairs. To date, 145 Massachusetts communities have participated in this program.

During FY 2013, loans to the CSMP communities resulted in the repair or replacement of over 500 septic systems at an average cost of \$13,000.



# Drinking Water SRF Annual Summary

This report covers the State Fiscal Year ending June 30, 2013.

*Massachusetts continues to support protection of public health by ensuring that all Massachusetts Public Water Suppliers have the necessary technical, financing and managerial capacity to maintain compliance with the current and foreseeable Safe Drinking Water Act requirements. The program continues to promote the completion of cost-effective projects that maximize protection of public health.*

## 2013 Drinking Water Program Results

In 2013, the Trust continued to expand its program by providing new commitments of just under \$40 million in funding for 16 loans to communities across the Commonwealth.

Grant Awards		
	FY 2013 Grant Awards	Program to date Grant Awards
Federal	\$17,012,000	\$446,546,100
State	3,402,400	78,866,020
Total	\$20,414,400	\$525,412,120

## Disbursements

During 2013, the Trust disbursed \$87.1 million for drinking water projects to various local governmental entities through the pool program, direct loans, and interim loans. Of this amount, \$4.5 million was disbursed in the form of additional subsidy with repayment not required to either “Renewable Energy” projects or “Environmental Justice” communities.

### FY 2013 Drinking Water Disbursements

	Amount	# of Loans
Interim Loans	\$46,617,051	35
Pool Program Project Funds	37,962,551	34
Direct Loans	2,489,962	4
Total	\$87,069,564	73

## Interim Loans

The Trust makes funds available to eligible projects on the IUP through the Interim Loan Program year round. Borrowers can enter into a short term loan to enable projects to proceed during the time prior to a Trust bond sale. The Trust is capable of funding a project from 60 days to 1 year prior to a bond sale by extending the use of program equity funds as a source of capital. The interest is accrued monthly on the basis of the balance drawn on the construction account. The interest rate is set at one-half of the one year Massachusetts Municipal Depository Trust (MMDT) rate. The average interest rate charged in FY 2013, accruing only on drawn funds, was 0.13%.

During FY 2013, 35 projects had drawn \$46.6 million of interim loan funds.



# Drinking Water SRF Annual Summary cont.

## Green Project Reserve

The 2012 Drinking Water SRF Grant does not require the funding of Green Projects. The Trust, however, continues to allow Green projects to be financed through the Drinking Water SRF. While it is not a requirement, when Massachusetts identifies particular Green projects, they will be identified in the Drinking Water Project Benefits Reporting System (PBR).

## Additional Subsidy

Massachusetts was required to provide a minimum of \$3,346,400 in additional subsidy from the 2012 grant. This additional subsidy is dedicated to communities that would not otherwise be able to afford the project. Massachusetts

chose to apply these funds to communities that meet the Environmental Justice (EJ) income threshold of below 65% of the state's median household income and for renewable energy projects. This targets the subsidy to lower income communities across the Commonwealth as well as providing subsidy for renewable energy projects that would typically have lengthy payback periods without the subsidy.

Massachusetts provides the subsidy to the communities in the form of principal forgiveness. For FY 2013, Massachusetts provided the required minimum amount of subsidy to twelve drinking water projects. Each project received an equivalent of 10% of the project cost as additional subsidy.

### 2012 Environmental Justice Projects

Borrower	Project	Loan Number	Project Cost	Principal Forgiveness
Brockton	Water System Improvement Program	DWP-12-26	\$711,700	\$71,177
Fairhaven	Boston Hill Tank Rehab and Main Replacement	DWP-12-10*	884,553	94,707
Fall River	Water System Master Plan Update	DWP-12-03	125,000	12,501
Fall River	Water Main Improvements, Phase 12	DWP-12-06	2,548,848	254,908
Gloucester	Water Treatment Plant Upgrade	DWP-12-02	4,981,061	498,152
Gloucester	Water Transmission Improvements	DWP-12-05	2,802,660	280,292
Kingston	Water Treatment Facility Construction and Solar Panel Installation	DWP-12-15**	242,830	24,285
Lawrence	Water Infrastructure Improvement	DWP-12-07	6,742,683	674,330
Lawrence	Valve Replacement	DWP-12-08	1,766,492	176,665
Lawrence	Water Meter Replacement	DWP-12-09	3,687,213	368,755
Malden	Water Main Replacement	DWP-12-04	6,739,087	673,971
Westfield	Water Main Replacement	DWP-12-18	2,166,372	216,657
Total			\$33,398,499	\$3,346,400

\*Project qualifies for both Environmental Justice and Renewable Energy Forgiveness

\*\*Project qualifies for Renewable Energy Forgiveness only

# Drinking Water SRF Annual Summary cont.

## 2013 Drinking Water Leveraged Program

The Trust program is leveraged by issuing bonds to provide construction proceeds for loans. Federal and state grants are pledged to secure the bonds by either funding reserve funds or pledged loans or a combination of both. Since 2002, the Trust has provided loans to communities at a 2% interest rate. As the interest rate on the bonds is higher than the 2% loan rate, borrowers receive a subsidy equal to the difference between the rates. Debt service on the Trust's SRF bonds is paid from a combination of three sources: borrower loan principal and interest repayments interest earnings on the debt service reserve funds, and subsidy payments provided by the Commonwealth, known as contract assistance. All Drinking Water loans have a maximum term of 20 years.

### Borrower Repayments

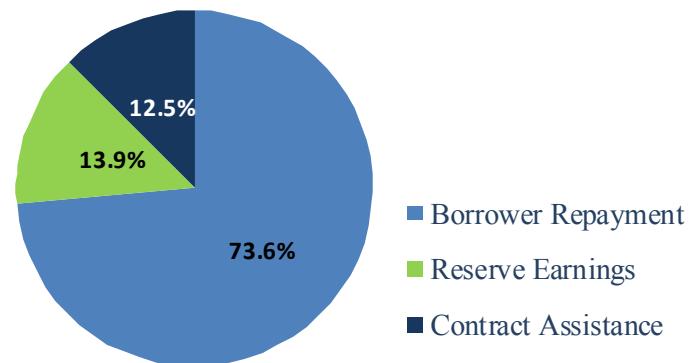
Each borrower is obligated to repay the principal amount of its loan at a subsidized interest rate of 2% or less. In FY 2013, borrower principal and interest loan repayments accounted for approximately 73.6% of debt service, totaling \$57.6 million. Beginning in FY 2012, the Trust pledged certain direct loans that it made from its SRF program funds as additional security for its series of revenue bonds rather than utilizing the traditional reserve fund. The interest the Trust receives from the pledged direct loans is used to pay a portion of debt service, while the principal payments received are available as additional security and recycled back to SRF program funds after debt service obligations have been met. As of June 30, 2013, the Trust has \$60 million of pledged direct loans outstanding.

### Reserve Fund Interest Earnings

Reserve funds (or specially pledged loans) are held as security for all Trust bonds at an amount between 33% and 50% of the outstanding principal. As of June 2013 the Trust held \$255.6 million in drinking water reserve funds invested in guaranteed investment contracts and US Treasury and Agency obligations. Earnings on these investments are applied to pay a portion of the debt service on the related series of SRF bonds. In FY 2013

reserve fund earnings applied to current debt service payments accounted for 13.9% of debt service. As bonds are repaid, reserve funds are released. In FY 2013, \$18.2 million was released to the Drinking Water SRF, and made available to be applied to new loans.

### Total Sources of Revenue for DWSRF FY2013



### Commonwealth Contract Assistance

The Commonwealth has entered into an Agreement for Contract Assistance to make payments to the Trust to directly subsidize debt service on the SRF bonds. Contract Assistance is appropriated annually in the Commonwealth's budget. To date the Trust has received \$107.1 million in Drinking Water Contract Assistance with a future commitment of \$98.5 million, for a total commitment by the Commonwealth of \$205.6 million. In FY 2013 Commonwealth contract assistance accounted for approximately 12.5% of debt service, totaling \$9.8 million in assistance applied.



# Drinking Water SRF Annual Summary cont.

## Drinking Water Set-Asides

MassDEP continues to use set-aside funds as outlined in the annual Intended Use Plans. The following sections describe the basic programs and accomplishments.

### 4% SET-ASIDE: Administration

MassDEP uses eight (8) full time equivalent (FTE) staff members to administer the Drinking Water SRF program. These FTEs utilize 4% set-aside funding to accomplish the following tasks: developing program selection criteria, application ranking and rating, project development, construction inspections, invoice payment, data management and administrative support functions.

### 2% SET-ASIDE: Small System Technical Assistance

**Municipal Services Support** - MassDEP uses two (2) FTEs to support Municipal Services. These FTEs continue to provide training and technical assistance (compliance and operational issues) to small systems throughout Massachusetts.

**Contract Services** - MassDEP contracted with the Massachusetts Coalition for Small System Assistance (MCSSA). The Coalitions work this year was completed by two (of the original five) technical service providers with distinct roles: New England Water Works Association provides coordination and group trainings; and Massachusetts Water Works Association operates the mentoring program. Technical support is provided in the following areas:

*Group Trainings* – Two (2) training events were held that focused on Water Quality Sampling.

*Mentoring* – Thirteen (13) mentoring sessions were held that consisted of a meeting/training between neighboring public water systems in an effort to establish and strengthen relationships. Topics included leak detection, public relations, disinfection, sampling and exam review.



Massachusetts Department of  
Environmental Protection

Type of Public Water System	Number of Existing Systems Evaluated
Community Systems	156
Non-transient Non-community Systems	75
Transient Non-community System	171
Totals	402

### 10% SET-ASIDE: State Program Management

Mass DEP uses approximately seventeen (17) FTEs to administer the state drinking water program. These FTEs utilize 10% set-aside funding for Public Water System support including the following programs: Sanitary Survey, Source & Wellhead Protection, Emergency Response, Capacity Development, Operator Certification, Consumer Confidence Report assistance, adoption and implementation of new regulations, evaluation and maintenance of existing federal rules, planning, outreach, data management, engineering and construction supervision, compliance supervision and other drinking water program activities. Some highlights of the programs in 2013 include:

## Drinking Water SRF Annual Summary cont.

**Sanitary Survey Program** – MassDEP Drinking Water staff is responsible for evaluating the technical, financial and managerial capability of Community, Non-Temporary Non-Community and Temporary Non-Community PWS. During the last year the drinking water staff has completed 402 evaluations on existing systems.

**Operator Certification** - MassDEP has a very active operator certification program. The program activities have been integrated into daily activities of staff. Program activities range from chairing the Board of Certification of Drinking Water Operators to providing general and specialized training of and guidance for drinking water operators at all levels.

**Wellhead Protection Program** – Technical assistance was provided to water supply systems for wellhead protection compliance, the development of protection plans, and for determining monitoring waiver eligibility.

**Capacity Development** - During the course of conducting sanitary surveys on public water systems, DEP staff identified 1,442 technical, financial or managerial deficiencies and provided corrective action assistance to ensure compliance. MassDEP's Capacity Development strategy focuses on improving the technical, financial, and managerial operations of both new and existing public water systems in the Commonwealth.



### 15% SET-ASIDE: Local Assistance

MassDEP uses twenty-one (21) FTEs from the 15% local assistance set-aside support the Public Water System Supervision programs including; adoption and implementation of new regulations, evaluation and maintenance of existing federal rules, planning, outreach, data management, engineering and construction supervision etc. Some highlights of the programs in 2013 include:

**Source Protection Support** - Work includes implementing and monitoring the chemical monitoring waiver program which provides incentive to do source protection as well as promoting preparedness and sustainability. Source protection technical assistance is provided during the 402 sanitary surveys that were completed throughout the year.

**Contract Services** - MassDEP has contracted fund Information Technology (IT) staff to assist with data management support for public water systems and implementation of the Safe Drinking Water Act programs. Key activities include reporting, program evaluation and database maintenance and improvement.

# Drinking Water Projects

The following are featured projects that embody the goals of the SRF program.

*The Massachusetts Drinking Water SRF program continues to meet the goals established in the annual Intended Use Plan (IUP). As outlined in the IUP, all SRF projects are subject to the rigorous environmental review procedures of the Massachusetts Environmental Policy Act.*

*Drinking Water projects typically involve construction and, or, rehabilitation of drinking water treatment plants, replacement of aging water mains and the construction of drinking water storage facilities.*

## Cherry Valley and Rochdale Water District (CVRWD)

### - Modification to Water Treatment Plant

This \$570,000 project consists of the construction of modifications to the existing WTP including: a system for total organic carbon (TOC) removal, a continuous monitoring system to comply with the Groundwater rule, re-piping of the backwash system, spillway modifications, and replacement of high lift pumps in the existing clearwell. The completion of this project will significantly improve the quality of water supplied to the CVRWD including the chief goal of removal of TOC's.

CVRWD is a small system with a service population of 3,675, which assists Massachusetts in meeting the small system financing requirements of the Drinking Water Grant.



## Massachusetts Water Resource Authority (MWRA)

### - Northern High Service Revere and Malden

The project work includes the water main improvements in Revere and Malden. Undersized pipelines and numerous leaks due to pipe wall corrosion have been a continued problem in the Northern High Service Area, particularly in the eastern most portion of the service area. To correct these problems the MWRA has instituted a series of pipeline rehabilitation and/or replacement contracts and other system improvements to ensure increased hydraulic pressure and improved water quality to these communities. The improvements include the construction of approximately 5,600 linear feet of 30 -inch to 72-inch diameter water mains and the slip lining of another 4,800 feet of existing water main. The Trust has provided \$2.9 million in financing for this \$10.4 million project.

## Drinking Water Projects cont.

### Fairhaven - Boston Hill Tank Rehab and Main Replacement

The project is for the painting, cleaning, and rehabilitation of the Boston Hill Water Storage Tank. Installation of a new mixing system in the tank will enhance water quality and minimize the formation of sediment at the bottom of the tank. The addition of security measures will reduce unauthorized access to the tank and potential contamination. The Drinking Water SRF is financing the entire \$1.4 million project cost.

### Westfield – Water Main Replacement

This \$2.9 million project replaces an undersized deteriorated 14-inch raw water transmission main installed in 1895. The pipeline's hydraulic capacity has declined to less than 3 MGD, which prevents the City of Westfield from utilizing the full capacity of 4 MGD from the Sackett Water Treatment Plant. The new transmission main will restore long-term system reliability and full use of the treatment plant. The project also incorporates on-site energy generation using a 37 kW in-line turbine to capture excess hydraulic head to generate much of the energy needed to run the plant.



# SRF Financial Summary

The following discussion provides additional details on the financing management activities of the SRF loan program.

## Leveraged Financing Model

The Trust's SRF loan program receives funding from the EPA in the form of an annual grant, supplemented by state matching funds and the repayment of funds from previous borrowers ("SRF Program Funds"). The Trust's SRF Program utilizes a "leveraged" financing model, under which federal grants and state matching grants are used as a source of security for revenue bonds ("SRF Bonds") issued by the Trust. The proceeds from the SRF bonds are used to fund loans to local governmental units for eligible project costs.

The leveraged structure of the Trust's program permits the Commonwealth to substantially increase the amounts available to fund eligible project costs. Each federal grant and associated state matching grant dollar contributed to the program results in at least two to three dollars of project cost financing while assuring the perpetual nature of the revolving fund.

The Trust's lending and bond issuance programs are structured in such a way as to ensure adequate cash flows to fund its loans and to repay its bonds to maturity. Depending on the type of projects being financed, the terms of the loans to borrowers, and the subsidy levels to which the borrowers are entitled, the Trust applies its SRF Program Funds to fund either direct loans to local governmental units or, invest in reserve funds, or a combination of both, which are then pledged as a source of payment and security for the SRF Bonds.

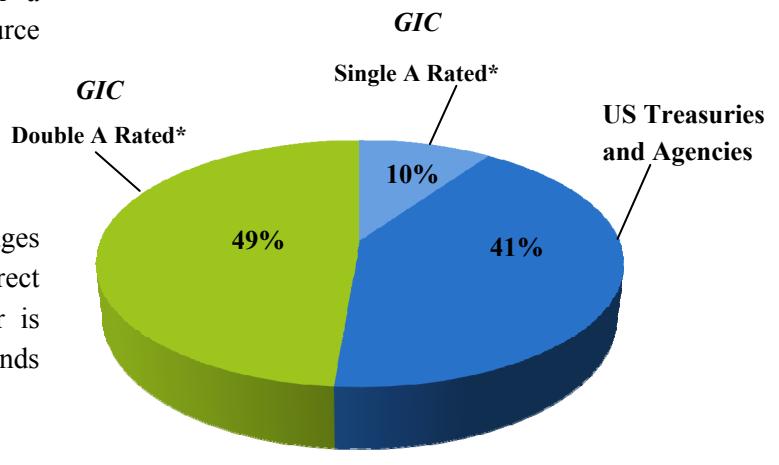
## Pledged Direct Loans

Under the pledged direct loan approach, the Trust pledges as additional security for a series of its SRF Bonds, direct loans ("Pledged Direct Loans") that it has made or is making concurrently with the issuance of such SRF Bonds from its SRF Program Funds to eligible borrowers for

water pollution abatement and drinking water projects. The Trust applies the interest payments on such Pledged Direct Loans to pay a portion of the debt service on the related series of SRF Bonds, thereby supplementing the loan repayment obligations of the borrowers of the Leveraged Loans funded by such SRF Bonds. Principal payments on the Pledged Direct Loans are pledged as further security for the related series of SRF Bonds. The Trust used the Pledged Direct Loan approach for its Series 17 SRF Bonds. The bonds are the second series of Trust SRF Bonds issued under the Pledged Direct Loan approach. As of June 30, 2013, the Trust has \$218.4 million in Pledged Direct Loans.

## Reserve Funds

In the past, the Trust has applied a portion of its SRF Program Funds to establish reserve funds to secure a series of its SRF Bonds. Those investment earnings are then applied to pay a portion of the debt service on the related SRF Bonds, thereby supplementing the loan repayment obligation of the borrowers of the Leveraged Loans funded by such SRF Bonds. As of June 30, 2013, the Trust has \$1.3 billion in SRF reserve funds invested in guaranteed investment contracts (GIC) and US Treasury and Agency Obligations.



## SRF Financial Summary cont.

### SRF Bonds Sources of Repayment

Principal and interest payments on the Trust's SRF Bonds are made from the following sources: (1) loan repayments from borrowers; (2) earnings on the federal grants and state matching grants pledged as security to the SRF Bonds, including, as applicable, interest earning on reserve funds and interest payments on direct loans pledged to secure such bonds; and (3) subsidy payments provided by the Commonwealth, known as contract assistance.



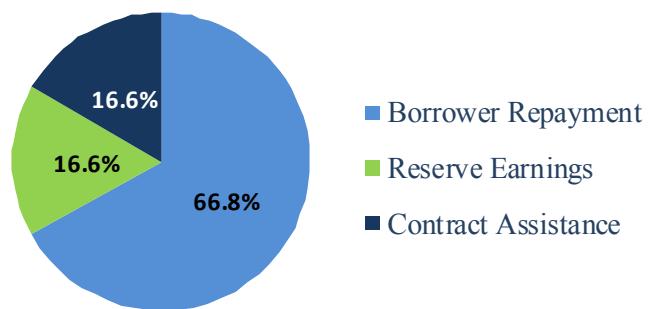
### Commonwealth Contract Assistance Payments

The Commonwealth makes assistance payments on behalf of certain Loans to borrowers to be used to pay a portion of debt service on the related series of the Trust's SRF Bonds, and thereby reduced the borrower's loan repayment obligation. The obligation of the Commonwealth to make such payments to the Trust is a general obligation of the Commonwealth, for which its full faith and credit are pledged.

### Deficiency Fund

On each date that the Trust pays down the principal amount of a series of SRF Bonds, or borrowers pay down the principal amount of the related pledged loans, the amount held in the related reserve fund is reduced proportionately, and the amounts released from each reserve fund are transferred either to the Pool Program Reserve Fund and then to the Deficiency Fund or directly to the Deficiency Fund and are available to cure defaults in any bond series. If not needed to cure a default, the released funds are transferred to the SRF Program Funds which assures the perpetual nature of the revolving fund.

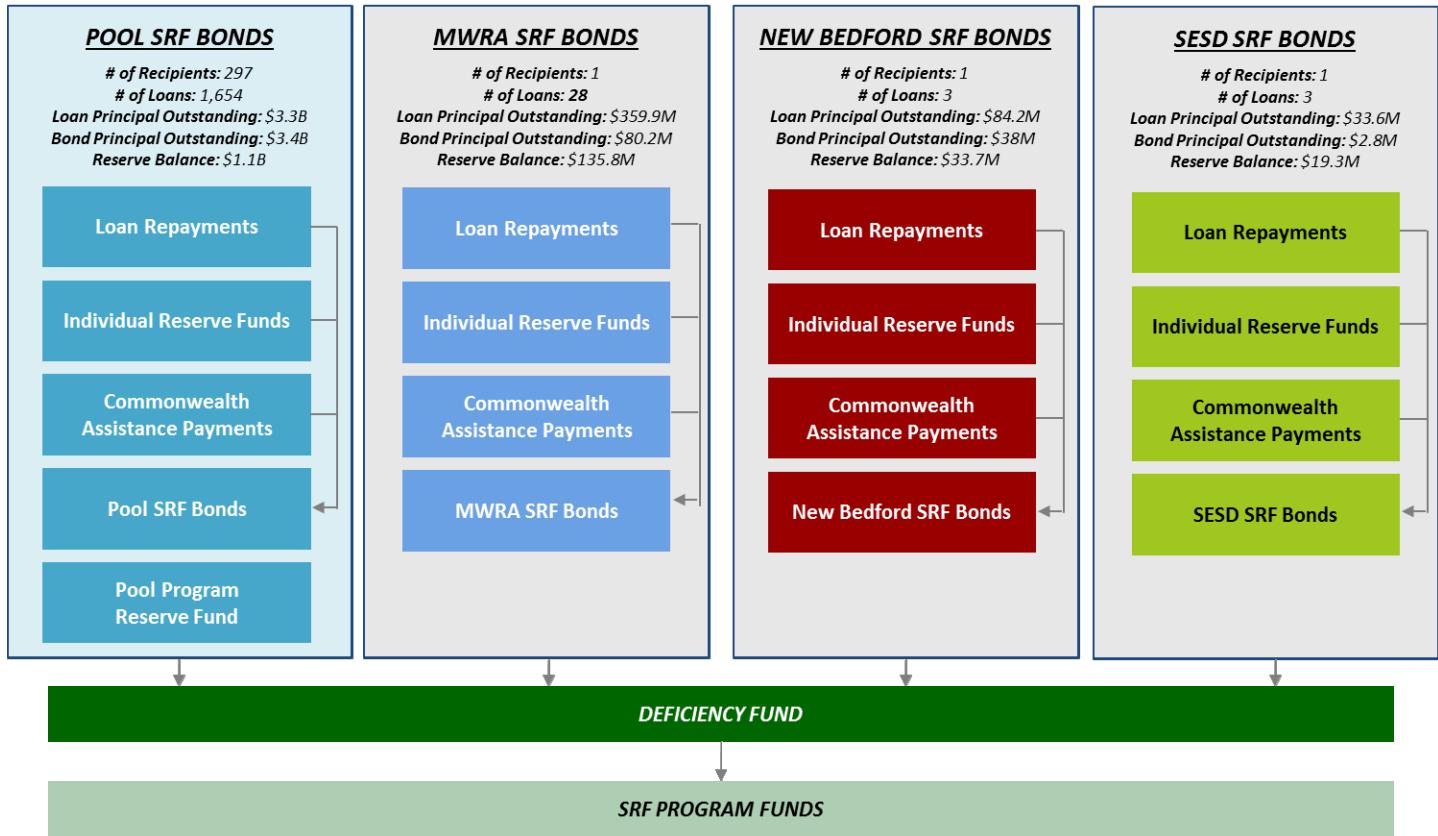
### Total Sources of Revenue for FY 2013



The Commonwealth has pledged over \$440 million in current and future assistance payments on behalf of program borrowers. The Commonwealth is currently rated "AA+/Aa1/AA+".

## SRF Financial Summary cont.

### Financing Flow of Funds



### Series 17 Bond Issue

On May 8, 2013, the Trust sold two series of SRF Bonds totaling \$202.3 million. These Series 17 SRF Bonds will mature annually over 30 years and provide subsidized financing for \$340.5 million in water infrastructure projects to 79 communities throughout the Commonwealth. Proceeds from these bonds provided \$245.9 million subsidized financing for projects under the clean water SRF program and \$94.5 million for projects under the drinking water SRF program.

The Series 17 SRF Bonds received a AAA rating from all three rating agencies. By receiving ratings higher than the average underlying ratings of the participating local communities, the Trust consistently delivers lower borrowing costs to the Commonwealth and its communities. The subsidized interest rate of 2 percent to communities saved the average borrower an estimated \$355,000 in debt service over the life of the loan, based on an average loan of \$3 million financed through these SRF Bonds.





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# Appendices

	2012	2013		
<b>Annual Grant Awards</b>				
Federal Clean Water SRF Grant	\$50,136,000	\$47,985,000		
State Matching Funds	10,027,200	9,597,000		
Total Federal & State Grant Awards	60,163,200	57,582,000		
<b>Annual Binding Commitments</b>				
	\$ Committed	# of Loans	\$ Committed	# of Loans
Binding loan commitments issued*	\$186,888,671	61	\$186,760,187	46
Interest earnings not for bond repayments	944,935		1,013,674	
<b>Annual Disbursements</b>				
	\$ Disbursed	# of Loans	\$ Disbursed	# of loans
Clean water interim loans*	\$180,676,078	99	\$118,028,541	79
Pool program project loans	80,133,356	68	83,852,319	60
Direct loan project loans	1,789,721	4	112,926	1
Total Disbursements	262,599,155	171	201,993,787	140
<b>Financial Results from Program Inception</b>				
Federal Clean Water SRF Grant	\$1,232,334,761	\$1,280,319,761		
State Matching Funds	219,855,492	229,452,492		
Total Federal & State Grant Awards	1,452,190,253	1,509,772,253		
Total Clean Water Assets	4,508,915,000	4,600,308,000		
Total Loans Financed	4,426,449,947	4,702,806,493		

\*Includes Community Septic Management Program binding commitments.

	2012	2013
<b>Annual Grant Awards</b>		
Federal Drinking Water SRF Grant	\$17,278,000	\$17,012,000
State Matching Funds	3,455,600	3,402,400
Total Federal & State Grant Awards	20,733,600	20,414,400

	<b>Annual Binding Commitments</b>			
	\$ Committed	# of Loans	\$ Committed	# of Loans
Binding loan commitments issued	\$119,655,218	35	\$35,461,695	15
Interest earnings not for bond repayments	202,089		126,452	

	<b>Annual Disbursements</b>			
	\$ Disbursed	# of Loans	\$Disbursed	# of loans
Drinking water interim loans	\$58,236,685	39	\$46,617,051	35
Pool program project loans	36,152,965	51	37,962,551	34
Direct loan project loans	3,817,335	7	2,489,962	4
Total Disbursements	98,206,985	97	87,069,564	73

	<b>Financial Results from Program Inception</b>			
	\$	#	\$	#
Federal Drinking Water SRF Grant	\$429,534,100		\$446,546,100	
State Matching Funds	75,463,620		78,886,020	
Total Federal & State Grant Awards	504,997,720		525,412,120	

Total Drinking Water Assets	1,250,723,000	1,295,062,000
Total Loans Financed	1,219,914,583	1,248,875,836





**September 2013**



Massachusetts Department of  
Environmental Protection

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